The statements contained in this report and the information referenced in it that are not purely historical are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, including statements regarding the Comptroller's expectations, hopes, intentions or strategies regarding the future. Readers should not place undue reliance on forward-looking statements. All forward-looking statements included in this report are based on information available to the Comptroller on the date of publication, and the Comptroller's office assumes no obligation to update any such forward-looking statements. It is important to note that actual results could differ materially from those in such forward-looking statements.

The forward-looking statements included here are necessarily based on various assumptions and estimates and are inherently subject to various risks and uncertainties, including those relating to the possible invalidity of the underlying assumptions and estimates and possible changes or developments in social, economic, business, industry, market, legal and regulatory circumstances and conditions and actions taken or not taken by third parties including customers, suppliers, business partners and competitors and legislative, judicial and other governmental authorities and officials. Assumptions related to the foregoing involve judgments with respect to, among other things, future economic, competitive and market conditions and future business decisions, all of which are difficult or impossible to predict accurately and many of which are beyond the control of the Comptroller's office. Any of such assumptions

On Aug. 25, 2017, Harvey made landfall, devastating Port Aransas, Rockport and other nearby communities with 130 mph winds and a six-foot storm surge. Swinging north, the hurricane moved into the Houston area, bringing thunderstorms and tornadoes that caused extensive damage.

Although it downgraded to a tropical storm as it moved inland, Harvey wasn't through spreading havoc. The storm lingered in Texas for several days, bringing record-breaking rainfall and catastrophic flooding to the southeastern part of the state. Parts of the Houston metro area recorded more than 50 inches of rain in a four-day period, while inland communities such as La Grange, Bastrop and Smithville saw massive flooding as the Colorado River overflowed its banks.

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Hurricane Harvey and the Texas Economy

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manufacturing, energy, chemical production and retail sales — suffered damage to structures and equipment and, in many cases, experienced signifi cant and expensive downtime due to flooding, lost electrical power, employees' inability to get to work and other situations causing temporary disruptions to the flow of goods and services.

Most businesses in the affected areas had to close in the immediate afteatw of the(s)-7.9 (t)8.6 (o)-2.3 (r)-3.5 (m) altte siod olott prod-5.9 (uc)-19.9 (t)587 (i)0.7 (on)2 (vu)-0.6 aiMnan1-8.2 yd n(c)t-10.2 (er)4.7 eM dsft31.7 (r)-119 (uc)-19.8 (t)4.2 (u)3.7 (r)-119 (a)3.6 (l)2 ((d)352 (a)4.3 (m)3 (a--1.4gev)9.7 (,)2 (fc)-25.8 i (i)5.1 (a po)-2.3 (r)2.7 (e)-394 (l)4.4 (i)3.2 (m12.8 (i)3.2 (n)1 (a)2.3 (r)-32.6 (y(a)242 (n)1 (a)1.6 (l)-3.1 y(s)5.1 (i)5.1 (s)-6.3 (V expr irnan49 turxlrdi ate rsin hoto(p)-21 (e)-363 (r)-363 hapes ec119.9 (o)-2.3 (n)-2.3 (d o)-2.3 (n)1.7 (l)-3.1 ye(t)8.6 (o2c119.6 0p)-76 0p sHmr rica-2.3 (n)-3.4 e Kf atrina-42.8 .

A HISTORY OF HURRICANES

To put Harvey's costs in perspective, consider previous storms with similar characteristics. These storms shared many similarities with Harvey in their e ects on lives, homes and infrastructure.

Although this increase in demand is expected to spike during the first year after the storm, it should return to pre-Harvey levels within five years.

As expected, the Texas economy as a whole appears to have bounced back to pre-Harvey levels as of the end of the fourth quarter of 2017.[17]

DATA AND ASSUMPTIONS

For this analysis, Comptroller economists used a Regional Economic Models Inc. (REMI) model based on Texas' 24 COG regions to examine economic activity. Eight of the 24 include the 41 counties that bore the brunt of the damage inflicted by Harvey, as determined by FEMA's disaster designation.

The methodology used to estimate losses and gains in economic activity as a result of Harvey relied on a combination of data, assumptions and estimates. REMI calculates the effect of losses and gains on projected GSP for the duration of the time period used in this analysis. Appendix 2 provides a detailed d anef thd ip5nny use8-8.9 (d t)8.9 (d)20 ( )]Tf 0.022 Tc -0.002]TJ -1.667 -1
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EXTRA HELP IN TOUGH TIMES:
COMPTROLLER'S OFFICE SUPPORTS TAXPAYERS AND EMPLOYEES

It wasn't the rst time. SPD worked with the Department of Public Safety's Texas Division of Emergency Management to support recovery e orts during hurricanes in 2005, 2007 and 2008; the Bastrop res in 2011; the West fertilizer plant explosion in 2013; and many other disasters.

Our own Comptroller family also was a ected by Harvey. About 20 employees experienced ood damage; at least one of our Houston-area employees lost his home. In response, agency employees hosted fundraisers to purchase supplies for fellow workers a ected by the hurricane and took food, bottled water, clothes, cleanup supplies and gift cards to storm-ravaged areas.

"It was a very pleasant surprise when employees from Austin

APPENDIX 2: Detailed Methodology of Net Economic Impact A

Economists use various modeling techniques to estimate the effect of economic trends and government policy options over time. For this report, the Comptroller's office developed an approach to analyze the cost of a disruptive event on the Texas economy as well as the subsequent economic activity generated as a result of the shock. Our economic impact analysis thus estimates the net effect of Hurricane Harvey on the Texas economy.

To estimate the cost of the storm on Texas, productivity loss is approximated by discounting the expected economic forecast for three years by the amount of time businesses were closed or out of production, varying in length by industry.

To estimate the gain from rebuilding, reported and anticipated expenditures are introduced that offset the negative effects of production loss.

The forecast employs a 70-sector, 24 Council of Government (COG) region version of Regional Economic Models Inc. (REMI) Policy Insight+ for Texas, Version 2.0, an economic software application that generates realistic annual estimates of the total regional effects of policy or other market changes, based on an approach that combines and builds on input-output, general equilibrium, computable econometric and economic geography modeling techniques. The software calculates differences between the baseline (a regional control forecast) and the shock forecast.[46]

The COG regions affected by the storm are assumed to be those containing counties that received FEMA assistance due to the storm.[47] All counties in the Houston-Galveston, South East Texas and Golden Crescent COGs were affected by the storm. The Brazos Valley, Coastal Bend, Deep East Texas, Alamo Area and Capital Area COGs were only partly affected and were discounted by the share of population in the affected counties in each COG to the total population of each (a "population discount"). The estimate assumes all of the businesses in affected counties were affected.

The estimate's timeframe is the initial shock year and two forecast years. Determining the cost share among federal, state and local governments is ongoing, even as more costs are being recorded. Because we do not yet know who will ultimately bear the burden of some Harvey-related costs, the scope of this analysis is limited to a relatively short time period.

The estimate uses nominal dollars (unadjusted for inflation).

PRODUCTIVITY LOSS

The productivity-loss component of the estimate assumes business days lost due to the storm, whether from power outages, damaged structures or temporary labor shortages, result in lower output (a "time discount11e produgea.4 (du)-6.5 (c)-.5 (r)-7.6 (m)-49 (t)3.8 (e a)0.5 (ss)2. o2-81.69-2.02-81.69-2.

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ENDNOTES

be spent in the next three years to rebuild and replace these items.

- expenditures from smaller nonprofit organizations.
- change in tax burden on Texans at the local and state levels due to increased costs from Harvey recovery or state budgetary actions that may be taken.
- change in government services provided due to resource reallocation.
- income to insurance companies from deductibles or potential changes in insurance premiums.
- productivity loss and gains from agricultural insurance; this study focused on the nonfarm portion of the ed c”e 1Z7 N uöä¡&Ø— -eè "-æQ â•å‘@‘ ×J ¤RGX6Á#)–RGVwéeÁ‡E68M ÁÁÀ %À'eQ BPDÆè#&z\¬®Ãpy 1– awéeæTC ” nE%A95N)ö8 "-a

FISCAL NOTES

Texas Comptroller of Public Accounts
Communications and Information Services Division
111 E. 17th St., Suite 301, Austin, TX 78774-0100

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